

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/026,967	BEBBINGTON ET AL.	
	Examiner Deepak Rao	Art Unit 1624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTO-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to the amendment filed on April 5, 2005.
2.  The allowed claim(s) 1-21,23-27,30,31,34,36 and 38.
3.  The drawings filed on \_\_\_\_\_ are accepted by the Examiner.
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All
  - b)  Some\*
  - c)  None
 of the:
  1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

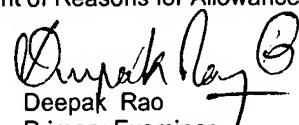
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

#### Attachment(s)

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.



Deepak Rao  
Primary Examiner  
Art Unit: 1624

### **EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Ms. Lisa Dixon on April 15, 2005.

The application has been amended as follows:

In claim 1, line 3, delete "derivative or prodrug" and in place insert -- salt --.

Amend claim 30 as follows:

30. (currently amended) A The method according to claim 29 wherein the disease is of treating diabetes comprising administering to a patient in need of such treatment a therapeutically effective amount of a composition according to claim 18.

*(Copy of amended claims 1 and 30 are provided in the Appendix).*

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deepak Rao whose telephone number is (571) 272-0672. The examiner can normally be reached on Tuesday-Friday from 6:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Mukund Shah, can be reached on (571) 262-0674. If you are unable to reach Dr. Shah within a 24 hour period, please contact James O. Wilson, Acting-SPE of 1624 at (571) 272-

0661. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1600.

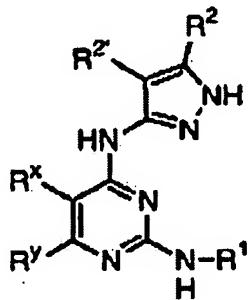
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Deepak Rao  
Primary Examiner  
Art Unit 1624

April 15, 2005

## Appendix

1. (currently amended) A compound of formula **IIc**:



**IIc**

or a pharmaceutically acceptable derivative or prodrug salt thereof, wherein

**R<sup>x</sup>** and **R<sup>y</sup>** are taken together with their intervening atoms to form a fused, unsaturated or partially unsaturated, 5-7 membered ring having 0-3 ring heteroatoms selected from oxygen, sulfur, or nitrogen, wherein any substitutable carbon on said fused ring formed by **R<sup>x</sup>** and **R<sup>y</sup>** is substituted by oxo, T-R<sup>3</sup>, or L-Z-R<sup>3</sup>, and any substitutable nitrogen on said ring formed by **R<sup>x</sup>** and **R<sup>y</sup>** is substituted by **R<sup>4</sup>**;

**R<sup>1</sup>** is T-(Ring D);

**Ring D** is a 5-7 membered monocyclic ring or 8-10 membered bicyclic ring selected from aryl,

heteroaryl, heterocyclyl or carbocyclyl, said heteroaryl or heterocyclyl ring having 1-4 ring heteroatoms selected from nitrogen, oxygen or sulfur, wherein **Ring D** is substituted at any substitutable ring carbon by oxo, T-R<sup>5</sup>, or V-Z-R<sup>5</sup>, and at any substitutable ring nitrogen by -R<sup>4</sup>;

**T** is a valence bond or a C<sub>1-4</sub> alkylidene chain;

**Z** is a C<sub>1-4</sub> alkylidene chain;

**L** is -O-, -S-, -SO-, -SO<sub>2</sub>-, -N(R<sup>6</sup>)SO<sub>2</sub>-, -SO<sub>2</sub>N(R<sup>6</sup>)-, -N(R<sup>6</sup>)-, -CO-, -CO<sub>2</sub>-, -N(R<sup>6</sup>)CO-, -N(R<sup>6</sup>)C(O)O-, -N(R<sup>6</sup>)CON(R<sup>6</sup>)-, -N(R<sup>6</sup>)SO<sub>2</sub>N(R<sup>6</sup>)-, -N(R<sup>6</sup>)N(R<sup>6</sup>)-, -C(O)N(R<sup>6</sup>)-, -

$\text{OC(O)N(R}^6\text{)}\text{-, -C(R}^6\text{)}_2\text{O-}, \text{-C(R}^6\text{)}_2\text{S-}, \text{-C(R}^6\text{)}_2\text{SO-}, \text{-C(R}^6\text{)}_2\text{SO}_2\text{-, -C(R}^6\text{)}_2\text{SO}_2\text{N(R}^6\text{)}\text{-, -C(R}^6\text{)}_2\text{N(R}^6\text{)}\text{-, -C(R}^6\text{)}_2\text{N(R}^6\text{)C(O)-, -C(R}^6\text{)}_2\text{N(R}^6\text{)C(O)O-}, \text{-C(R}^6\text{)=NN(R}^6\text{)}\text{-, -C(R}^6\text{)=N-O-}, \text{-C(R}^6\text{)}_2\text{N(R}^6\text{)N(R}^6\text{)}\text{-, -C(R}^6\text{)}_2\text{N(R}^6\text{)SO}_2\text{N(R}^6\text{)}\text{-, or -C(R}^6\text{)}_2\text{N(R}^6\text{)CON(R}^6\text{)}\text{-;}$

$\text{R}^2$  and  $\text{R}^{2'}$  are independently selected from  $-\text{R}$ ,  $-\text{T-W-R}^6$ , or  $\text{R}^2$  and  $\text{R}^{2'}$  are taken together with their intervening atoms to form a fused, 5-8 membered, unsaturated or partially unsaturated, ring having 0-3 ring heteroatoms selected from nitrogen, oxygen, or sulfur, wherein each substitutable carbon on said fused ring formed by  $\text{R}^2$  and  $\text{R}^{2'}$  is substituted by halo, oxo,  $-\text{CN}$ ,  $-\text{NO}_2$ ,  $-\text{R}^7$ , or  $-\text{V-R}^6$ , and any substitutable nitrogen on said ring formed by  $\text{R}^2$  and  $\text{R}^{2'}$  is substituted by  $\text{R}^4$ ;

$\text{R}^3$  is selected from  $-\text{R}$ ,  $-\text{halo}$ ,  $-\text{OR}$ ,  $-\text{C(=O)R}$ ,  $-\text{CO}_2\text{R}$ ,  $-\text{COCOR}$ ,  $-\text{COCH}_2\text{COR}$ ,  $-\text{NO}_2$ ,  $-\text{CN}$ ,  $-\text{S(O)R}$ ,  $-\text{S(O)}_2\text{R}$ ,  $-\text{SR}$ ,  $-\text{N(R}^4\text{)}_2$ ,  $-\text{CON(R}^7\text{)}_2$ ,  $-\text{SO}_2\text{N(R}^7\text{)}_2$ ,  $-\text{OC(=O)R}$ ,  $-\text{N(R}^7\text{)COR}$ ,  $-\text{N(R}^7\text{)CO}_2(\text{C}_{1-6}\text{ aliphatic})$ ,  $-\text{N(R}^4\text{)N(R}^4\text{)}_2$ ,  $-\text{C=NN(R}^4\text{)}_2$ ,  $-\text{C=N-OR}$ ,  $-\text{N(R}^7\text{)CON(R}^7\text{)}_2$ ,  $-\text{N(R}^7\text{)SO}_2\text{N(R}^7\text{)}_2$ ,  $-\text{N(R}^4\text{)SO}_2\text{R}$ , or  $-\text{OC(=O)N(R}^7\text{)}_2$ ;

each  $\text{R}$  is independently selected from hydrogen or an optionally substituted group selected from  $\text{C}_{1-6}$  aliphatic,  $\text{C}_{6-10}$  aryl, a heteroaryl ring having 5-10 ring atoms, or a heterocyclyl ring having 5-10 ring atoms;

each  $\text{R}^4$  is independently selected from  $-\text{R}^7$ ,  $-\text{COR}^7$ ,  $-\text{CO}_2$ (optionally substituted  $\text{C}_{1-6}$  aliphatic),  $-\text{CON(R}^7\text{)}_2$ , or  $-\text{SO}_2\text{R}^7$ ;

each  $\text{R}^5$  is independently selected from  $-\text{R}$ ,  $-\text{halo}$ ,  $-\text{OR}$ ,  $-\text{C(=O)R}$ ,  $-\text{CO}_2\text{R}$ ,  $-\text{COCOR}$ ,  $-\text{NO}_2$ ,  $-\text{CN}$ ,  $-\text{S(O)R}$ ,  $-\text{SO}_2\text{R}$ ,  $-\text{SR}$ ,  $-\text{N(R}^4\text{)}_2$ ,  $-\text{CON(R}^4\text{)}_2$ ,  $-\text{SO}_2\text{N(R}^4\text{)}_2$ ,  $-\text{OC(=O)R}$ ,  $-\text{N(R}^4\text{)COR}$ ,  $-\text{N(R}^4\text{)CO}_2$ (optionally substituted  $\text{C}_{1-6}$  aliphatic),  $-\text{N(R}^4\text{)N(R}^4\text{)}_2$ ,  $-\text{C=NN(R}^4\text{)}_2$ ,  $-\text{C=N-OR}$ ,  $-\text{N(R}^4\text{)CON(R}^4\text{)}_2$ ,  $-\text{N(R}^4\text{)SO}_2\text{N(R}^4\text{)}_2$ ,  $-\text{N(R}^4\text{)SO}_2\text{R}$ , or  $-\text{OC(=O)N(R}^4\text{)}_2$ ;

$\text{V}$  is  $-\text{O-}$ ,  $-\text{S-}$ ,  $-\text{SO-}$ ,  $-\text{SO}_2\text{-}$ ,  $-\text{N(R}^6\text{)SO}_2\text{-}$ ,  $-\text{SO}_2\text{N(R}^6\text{)}\text{-}$ ,  $-\text{N(R}^6\text{)}\text{-}$ ,  $-\text{CO-}$ ,  $-\text{CO}_2\text{-}$ ,  $-\text{N(R}^6\text{)CO-}$ ,  $-\text{N(R}^6\text{)C(O)O-}$ ,  $-\text{N(R}^6\text{)CON(R}^6\text{)}\text{-}$ ,  $-\text{N(R}^6\text{)SO}_2\text{N(R}^6\text{)}\text{-}$ ,  $-\text{N(R}^6\text{)N(R}^6\text{)}\text{-}$ ,  $-\text{C(O)N(R}^6\text{)}\text{-}$ ,  $-\text{OC(O)N(R}^6\text{)}\text{-}$ ,  $-\text{C(R}^6\text{)}_2\text{O-}$ ,  $-\text{C(R}^6\text{)}_2\text{S-}$ ,  $-\text{C(R}^6\text{)}_2\text{SO-}$ ,  $-\text{C(R}^6\text{)}_2\text{SO}_2\text{-}$ ,  $-\text{C(R}^6\text{)}_2\text{SO}_2\text{N(R}^6\text{)}\text{-}$ ,

$\text{C}(\text{R}^6)_2\text{N}(\text{R}^6)\text{-}$ ,  $-\text{C}(\text{R}^6)_2\text{N}(\text{R}^6)\text{C}(\text{O})\text{-}$ ,  $-\text{C}(\text{R}^6)_2\text{N}(\text{R}^6)\text{C}(\text{O})\text{O}\text{-}$ ,  $-\text{C}(\text{R}^6)=\text{NN}(\text{R}^6)\text{-}$ ,  $-\text{C}(\text{R}^6)=\text{N-O}\text{-}$ ,  
 $-\text{C}(\text{R}^6)_2\text{N}(\text{R}^6)\text{N}(\text{R}^6)\text{-}$ ,  $-\text{C}(\text{R}^6)_2\text{N}(\text{R}^6)\text{SO}_2\text{N}(\text{R}^6)\text{-}$ , or  $-\text{C}(\text{R}^6)_2\text{N}(\text{R}^6)\text{CON}(\text{R}^6)\text{-}$ ;  
W is  $-\text{C}(\text{R}^6)_2\text{O}\text{-}$ ,  $-\text{C}(\text{R}^6)_2\text{S}\text{-}$ ,  $-\text{C}(\text{R}^6)_2\text{SO}\text{-}$ ,  $-\text{C}(\text{R}^6)_2\text{SO}_2\text{-}$ ,  $-\text{C}(\text{R}^6)_2\text{SO}_2\text{N}(\text{R}^6)\text{-}$ ,  $-\text{C}(\text{R}^6)_2\text{N}(\text{R}^6)\text{-}$ ,  $-\text{CO}\text{-}$ ,  $-\text{CO}_2\text{-}$ ,  $-\text{C}(\text{R}^6)\text{OC}(\text{O})\text{-}$ ,  $-\text{C}(\text{R}^6)\text{OC}(\text{O})\text{N}(\text{R}^6)\text{-}$ ,  $-\text{C}(\text{R}^6)_2\text{N}(\text{R}^6)\text{CO}\text{-}$ ,  $-\text{C}(\text{R}^6)_2\text{N}(\text{R}^6)\text{C}(\text{O})\text{O}\text{-}$ ,  
 $-\text{C}(\text{R}^6)=\text{NN}(\text{R}^6)\text{-}$ ,  $-\text{C}(\text{R}^6)=\text{N-O}\text{-}$ ,  $-\text{C}(\text{R}^6)_2\text{N}(\text{R}^6)\text{N}(\text{R}^6)\text{-}$ ,  $-\text{C}(\text{R}^6)_2\text{N}(\text{R}^6)\text{SO}_2\text{N}(\text{R}^6)\text{-}$ ,  
 $-\text{C}(\text{R}^6)_2\text{N}(\text{R}^6)\text{CON}(\text{R}^6)\text{-}$ , or  $-\text{CON}(\text{R}^6)\text{-}$ ;  
each  $\text{R}^6$  is independently selected from hydrogen or an optionally substituted  $\text{C}_{1-4}$  aliphatic group, or two  $\text{R}^6$  groups on the same nitrogen atom are taken together with the nitrogen atom to form a 5-6 membered heterocyclyl or heteroaryl ring; and  
each  $\text{R}^7$  is independently selected from hydrogen or an optionally substituted  $\text{C}_{1-4}$  aliphatic group, or two  $\text{R}^7$  on the same nitrogen are taken together with the nitrogen to form a 5-8 membered heterocyclyl or heteroaryl ring.

30. (currently amended) A The method according to claim 29 wherein the disease is of treating diabetes comprising administering to a patient in need of such treatment a therapeutically effective amount of a composition according to claim 18.